Memorandum

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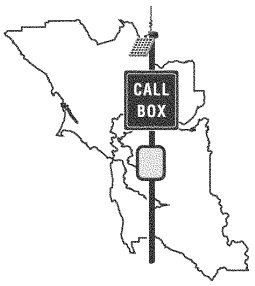

Agenda Item No. 3

TO: SAFE Operations Committee DATE: 5/3/2002

FROM: Executive Director W.I. 1231

RE: MTC SAFE Call Box Program 5-Year Strategic Plan and Financial Plan

In July 2001, this Committee authorized staff to hire consultant services to prepare a MTC SAFE Call Box Program 5-Year Strategic and Financial Plan. The Strategic Plan establishes a long-term plan for the deployment and operation of the call boxes on the region's freeway system and a financial plan for the call box system and other motorist-aid services. This month, we are presenting the Strategic Plan to the Committee for review and comment prior to releasing it for public input. It is our intent to respond to the comments received from the Committee and the public and bring the Strategic Plan back for your approval in June.

Most notably, the plan includes a recommendation to reduce the number of call boxes in the region due to declining call volumes and escalating capital rehabilitation costs. We have reviewed the draft Strategic Plan with Caltrans and the California Highway Patrol (CHP). Based on the review of the Plan's recommendations by those agencies, both agencies support the direction and recommendations contained in the Plan.

SAFE staff and the consultant firm (Darrel Cohoon & Associates) that prepared the Strategic Plan will present the recommendations of the Strategic Plan at the Committee's May 10th meeting.

Steve Heminger

SH/LL
Attachment

MTC SAFE Call Box Program 5-Year Strategic and Financial Plan
Executive Summary

Background

Call box usage has been decreasing as cellular phone usage increases (see Figure 1). More and more motorists are using their cellular phones either to dial 911 to report an emergency along the freeway or to call a tow service/friends/family directly for assistance. With call box usage declining by more than 50 percent during the last five years and a projected decline for several more years to come, there is an important need to determine what level of investment is appropriate to either maintain or improve the current system – relative to the number of users, the user groups being served, and the service being provided.

During the past 10 years that the MTC SAFE Call Box Program has been in operation, many system improvements have been implemented, including improved access by disabled motorists, responsiveness to calls, and system coverage. In the initial years, the Program had an annual budget that significantly exceeded the early costs to implement and operate the Program. However, in recent years, several new issues have arisen (e.g., improving access for the speech- and hearing-impaired, converting the call boxes from analog to digital service, etc.) that could require large, future investments beyond the capabilities of projected resources.

Given that the call box system will need significant investments to upgrade the system and the fact that call box usage has declined and will most likely continue to decline over the next several years, we found that these issues needed a broader and longer-term look to determine how the Call Box Program should continue to effectively serve the public and the most effective use of available resources.

Recommended Strategic Plan and Financial Plan

MTC SAFE hired the consultant team of Darrel Cohoon & Associates to develop the MTC SAFE Call Box Program 5-Year Strategic and Financial Plan. The consultant was tasked with developing a set of strategies to most effectively operate the call box program, as well as determining the 5-year financial implications of these strategies on the Program.

The consultant team developed three different Strategic and Financial Plan scenarios – a Minimum-Cost Scenario, Maximum-Cost Scenario, and a Recommended Scenario. The Recommended Scenario is the focus of the discussion below. Detailed discussions of the other two scenarios can be found in the report of the MTC SAFE 5-Year Strategic and Financial Plan.

Strategic Plan Recommendations:

Table 1 summarizes 11 specific elements of the consultant's Recommended Scenario for the Call Box Program. The two key components of this scenario include reducing the number of call boxes in the existing system and supplementing the stationary call boxes with other means of motorist aid communications. Given that call box usage has declined significantly due to the use of cellular phones, the Strategic Plan recommends reducing the current call box system by about one-third from 3,500 to approximately 2,100 call boxes. In summary, the Strategic Plan's recommendation to reduce the number of call boxes is based on the following:

- Over the past five years, call box calls have decreased by more than 50%, from an average of 18,000 calls per month in 1996 to an average of 8,000 calls per month in 2001;

- Given that cellular phone penetration and usage is expected to continue to increase, it can be expected that call box calls will continue to decline. At present approximately 45 to 50% of adults have cellular phones – that percentage is expected to rise to about 70% over the next 5 to 10 years; and

- A reduction of approximately one-third of the current call box system will save approximately $4.7 million in SAFE funds over the next five year period since the needed call box system improvements, operations and maintenance needs will be required for a reduced system.

The Strategic Plan recommends that the reduction in call boxes be accomplished by increasing the spacing between the existing call boxes. At present, about 22% (about 700) of the region's call boxes are spaced less than one-quarter mile apart. The Strategic Plan recommends that SAFE first examine increasing the spacing of the call boxes with the shortest spacing.

The Strategic Plan further recommends that the reduction in the call box system be implemented over a three-year period, from FY03 to FY05, and should be based on a detailed – box-by-box – reduction plan. The Plan recommends that a number of factors, including spacing, use, access, safety and traffic conditions be used in determining which specific boxes to remove. A phased reduction in our call box system will also allow us to assess the impacts of reducing the number of call boxes over time and adjust our reduction plans.

A second key recommendation of the Strategic Plan is that SAFE should examine implementing measures that mitigate the potential impacts of reducing the number of call boxes. The Plan recommends conducting a feasibility study to determine the cost and other key considerations associated with a range of motorist-aid options to supplement the call boxes. The options identified include establishing a cellular phone distribution program using a dedicated motorist-aid telephone number. The Plan recommends that SAFE initially examine developing this type of a program for motorist who may be most impacted by the reduction in the stationary call boxes.

The remaining strategies listed in Table 1 address other specific areas (e.g. access improvements, technology upgrades, etc.) to improve the call box system. The result of the recommended improvements will be to establish a baseline call box program that is effectively sized and fully functional. The recommendations in the Plan include improving this baseline system of call boxes to ensure that they are fully accessible to the physically disabled, fully functional for individuals with speech and hearing impairments, and upgraded with the latest technologies (e.g. converting boxes from analog to digital).

Recommended Financial Plan:

Table 2 presents the 5-Year Financial Plan associated with the Recommended Scenario in the Strategic Plan. The table identifies the 5-year financial implications of implementing the recommended strategies listed in Table 1. It assumes that the existing call box system would be reduced by about one-third over a three-year period. As mentioned above, this reduction in the number of call boxes would cause a reduction in maintenance and operational costs, as well as a reduction in capital improvement costs.

It should be noted that the Recommended Scenario assumes MTC SAFE would continue to make contributions to support the Freeway Service Patrol (FSP) services, TravInfo®, and the Concept of Operations project at current levels. The budget also includes $4.7 million set aside in reserves to cover a reasonable operating contingency level for the Call Box and FSP programs.

Additional Project Expenditures

As shown in Table 2, as a result of implementing the Strategic Plan, SAFE will have an available fund balance of approximately $14.3 million by the end of FY 2006-07. This projected fund balance can be used to support other important motorist-aid projects beyond the Call Box Program. We have worked with both Caltrans and the CHP to develop a program of five high priority motorist-aid projects that can immediately improve freeway safety and enhance freeway operations and traffic management. Table 3 presents a summary description and the cost of the motorist-aid projects that staff recommends be funded with SAFE funds. The recommended motorist-aid projects total $11.25 million over a five-year period.

Table 4 summarizes the financial implications of implementing these projects. As shown, there would be an approximate $2.5 million fund balance fund balance at the end of FY 2006-07 with the implementation of these new and expanded motorist-aid projects. The remaining fund balance at the end of FY 2006-07 would be used to continue to fund the on-going operating costs and any capital improvement projects needed for the Call Box Program beyond FY 2006-07.

Figure 1: Comparison of
Annual Cellular Phone Subscribers vs. Call Box Call Volume

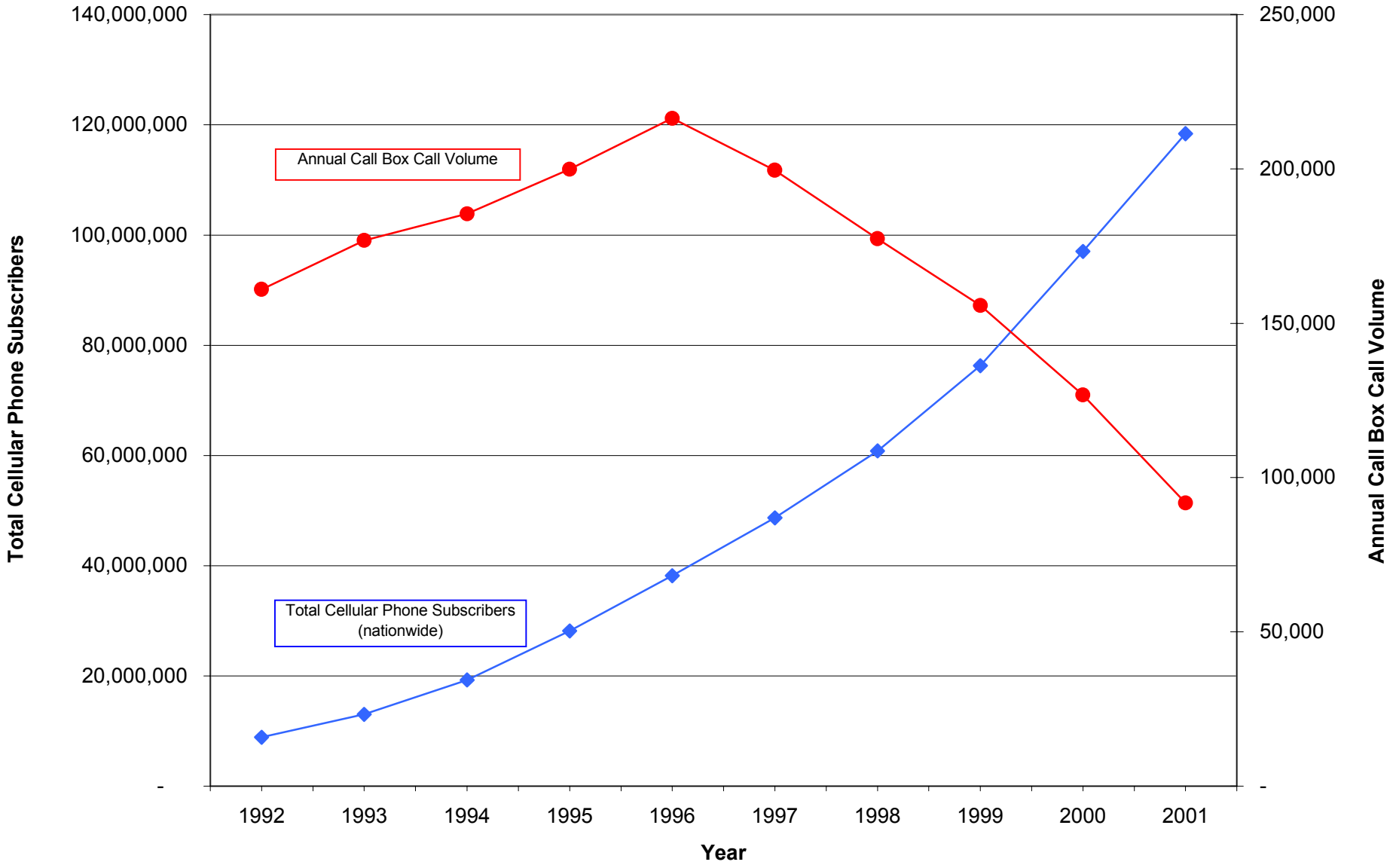

Table 1: Recommended Elements of the 5-Year Strategic Plan

	ELEMENT	STRATEGY
1	System Reduction	Reduce the number of call boxes in the system to a level that recognizes its diminishing use by motorists and that is in keeping with the size of system that would be built if the call box program were being implemented anew today. The current call box system could be reduced by about one-third, or from 3,500 call boxes to about 2,100 call boxes by increasing the spacing between call boxes.
2	Supplemental Motorist Aid Communications	Evaluate the feasibility of increasing motorist aid communication for groups or individuals that may be most impacted by increasing the spacing of call boxes, such as providing portable cellular phones to persons with physical disabilities or possibly working with law enforcement agencies and their existing 311 non-emergency number as it specifically relates to roadside assistance.
3	Speech- and Hearing-Impaired Access Improvements	Select a speech and hearing-impaired access technology after MTC SAFE has further evaluated the capabilities of alternative devices and has more fully determined preferences among speech and hearing-impaired motorists. Community surveys should be conducted to better assess which technology would meet the needs of motorists with speech- and hearing-impairments.
4	Digital Conversion	Delay upgrading from analog to digital cellular service until the expiration of MTC SAFE's current contract with Verizon, which would be in FY05.
5	Call Box Call Answering	Reduce call answering costs consistent with expected reductions in call volumes and other potential changes involving CHP policies.
6	Call Boxes on Bridges	BATA will fund capital costs of providing call boxes on bridges and SAFE should ensure that Caltrans funds costs of the operations and maintenance of the call boxes on bridges, consistent with current funding responsibilities.
7	Call Boxes on Arterials	Further investment of SAFE funds to install call boxes on local arterials is not recommended.
8	Mobility-Impaired Access Improvements	Implement a recently approved FHWA and Caltrans site design for improving physical access to call boxes that are obstructed by curbs.
9	Highway Safety Improvements	Make improvements to call box retaining walls, if required by Caltrans.
10	Enhanced Call Box Technology	Conduct limited further testing of smart call boxes to determine whether they may play a valuable role in traveler information and traffic management.
11	Program Reserves	Develop reserve funds for the Call Box Program based on reasonable estimates for capital improvements and a reasonable contingency level for operational purposes, including FSP operations.

Table 2: 5-Year Financial Plan - Recommended Approach
Summary of Proposed Revenue and Expenditure Plan[1]

		Base Year					
	Fiscal Year Ending	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
1	**Revenues**						
2	DMV Revenue	$6,071,552	$6,192,983	$6,316,843	$6,443,180	$6,572,043	$6,703,484
3	CMAQ	$0	$0	$750,000	$750,000	$750,000	$750,000
4	Interest Revenue	$827,708	$447,226	$440,268	$459,953	$395,293	$385,936
5	Other (Caldecott)	$0	$0	$0	$0	$0	$0
6	Office of Traffic (OTS) / State Planning & Research (SPR)	$0	$0	$0	$0	$0	$0
7	Knockdown Recovery	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
8	**Total Revenues**	**$6,949,260**	**$6,690,209**	**$7,557,111**	**$7,703,133**	**$7,767,336**	**$7,889,420**
9	**Call Box Operating and Capital Costs**						
10	**Total Call Box Program Operating Costs**	**$3,500,684**	**$3,560,258**	**$3,098,215**	**$3,469,559**	**$2,443,169**	**$2,483,815**
11	*Capital Expenditures* [2]						
12	Call Box Removal	$0	$92,700	$95,481	$98,345	$0	$0
13	Other Equipment (Signs, etc)	$50,000	$51,500	$53,045	$54,636	$56,275	$57,964
14	Pad Replacement	$0	$173,996	$179,216	$184,593	$0	$0
15	Disabled Site Access (mobility impaired)	$0	$0	$0	$940,014	$0	$0
16	Spch/Hrng Access	$0	$0	$0	$704,809	$725,953	$747,732
17	Smart Call Box Capital	$0	$51,500	$0	$0	$0	$0
18	System Upgrade to Digital	$0	$0	$0	$1,644,554	$0	$0
19	Private Call Center (Phase I Capital only)	$25,000	$25,750	$26,523	$27,318	$28,138	$28,982
20	Transverse Wall Retrofit	$225,000	$0	$0	$165,127	$0	$0
21	**Total Call Box Program Capital Expenses**	**$300,000**	**$395,446**	**$354,265**	**$3,819,396**	**$810,366**	**$834,677**
22	**Total Call Box Program Expenditures**	**$3,800,684**	**$3,955,705**	**$3,452,480**	**$7,288,955**	**$3,253,535**	**$3,318,492**
23	**Contributions to Other Projects:**						
24	a) FSP -						
25	FSP Current Service	$2,069,048	$2,376,003	$2,375,703	$2,902,489	$4,315,450	$3,852,988
26	b) Misc. Other -						
27	TravInfo®	$1,007,749	$706,378	$744,682	$744,682	$666,213	$992,809
28	Concept of Operations	$500,000	$0	$0	$0	$0	$0
29	**Total Misc Other**	**$1,507,749**	**$706,378**	**$744,682**	**$744,682**	**$666,213**	**$992,809**
30	**Total Contributions to Other Projects (TravInfo, FSP, etc**	**$3,576,797**	**$3,082,381**	**$3,120,385**	**$3,647,171**	**$4,981,663**	**$4,845,797**
31	**Total Project Expenditures**	**$7,377,481**	**$7,038,086**	**$6,572,865**	**$10,936,126**	**$8,235,198**	**$8,164,289**
32	**End of Year Cash Available (Excluding Reserves)**	**$10,896,793**	**$10,914,575**	**$12,484,107**	**$12,884,839**	**$13,740,538**	**$14,280,023**
33	**Total Call Box Program and FSP Reserves**	**$11,464,493**	**$11,098,834**	**$10,513,548**	**$6,879,823**	**$5,556,262**	**$4,741,907**

[1] Spreadsheets containing full detail are included with the final report

[2] Capital Expenditures are funded through withdrawals from the Capital Reserve Fund

Table 3: SAFE-Funded Other Motorist Aid Projects

PROJECT	DESCRIPTION	5-YEAR COST
FSP Expansion Plan – Phases I and II	• Implement weekend beats • Implement new beats • Add trucks on existing beats • Implement midday service	$7.5 million
Highway 17 Safety Program	• Continue to increase CHP enforcement on Highway 17 • Continue to increase public awareness on Highway 17	$0.25 million
Upgrade CCTV Freeway Monitoring Cameras	• Upgrade existing legacy cameras • Integrate existing user interface • Implement Internet Protocol (IP) demo • Upgrade Integrated Services Digital Network (ISDN) lines • Facilitate center-to-center communications link	$1.0 million
Traffic Operations Systems (TOS) Database	• Inventory field equipment • Convert to Oracle database	$0.5 million
CHP Incident Response Shared Radio Frequency	• Implement an interoperability radio network/frequency that can be utilized when responding to a major incident	$2.0 million
Total 5-Year Cost		$11.25 million

Table 4: 5-Year Financial Plan - Recommended Approach with Additional Project Expenditures
Summary of Proposed Revenue and Expenditure Plan[1]

		Base Year					
	Fiscal Year Ending	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
1	**Revenues**						
2	DMV Revenue	$6,071,552	$6,192,983	$6,316,843	$6,443,180	$6,572,043	$6,703,484
3	CMAQ	$0	$0	$750,000	$750,000	$750,000	$750,000
4	Interest Revenue	$827,708	$447,226	$366,668	$381,281	$262,198	$202,135
5	Other (Caldecott)	$0	$0	$0	$0	$0	$0
6	Office of Traffic (OTS) / State Planning & Research (SPR)	$0	$0	$0	$0	$0	$0
7	Knockdown Recovery	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
8	**Total Revenues**	**$6,949,260**	**$6,690,209**	**$7,483,511**	**$7,624,461**	**$7,634,241**	**$7,705,619**
9	**Call Box Operating and Capital Costs**						
10	**Total Call Box Program Operating Costs**	**$3,500,684**	**$3,560,258**	**$3,098,215**	**$3,469,559**	**$2,443,169**	**$2,483,815**
11	*Capital Expenditures* [2]						
12	Call Box Removal	$0	$92,700	$95,481	$98,345	$0	$0
13	Other Equipment (Signs, etc)	$50,000	$51,500	$53,045	$54,636	$56,275	$57,964
14	Pad Replacement	$0	$173,996	$179,216	$184,593	$0	$0
15	Disabled Site Access (mobility impaired)	$0	$0	$0	$940,014	$0	$0
16	Spch/Hrng Access	$0	$0	$0	$704,809	$725,953	$747,732
17	Smart Call Box Capital	$0	$51,500	$0	$0	$0	$0
18	System Upgrade to Digital	$0	$0	$0	$1,644,554	$0	$0
19	Private Call Center (Phase I Capital only)	$25,000	$25,750	$26,523	$27,318	$28,138	$28,982
20	Transverse Wall Retrofit	$225,000	$0	$0	$165,127	$0	$0
21	**Total Call Box Program Capital Expenses**	**$300,000**	**$395,446**	**$354,265**	**$3,819,396**	**$810,366**	**$834,677**
22	**Total Call Box Program Expenditures**	**$3,800,684**	**$3,955,705**	**$3,452,480**	**$7,288,955**	**$3,253,535**	**$3,318,492**
23	**Contributions to Other Projects:**						
24	a) FSP -						
25	FSP Current Service	$2,069,048	$2,376,003	$2,375,703	$2,902,489	$4,315,450	$3,852,988
26	FSP Expansion (Phases I and II)	$0	$130,000	$130,000	$2,592,508	$2,352,197	$2,352,197
27	b) Incident Management -						
28	Highway Safety	$0	$50,000	$50,000	$50,000	$50,000	$50,000
29	CCTV Project	$0	$1,000,000	$0	$0	$0	$0
30	TOS Database	$0	$500,000	$0	$0	$0	$0
31	CHP Radio	$0	$2,000,000	$0	$0	$0	$0
32	**Total Incident Management**	**$0**	**$3,550,000**	**$50,000**	**$50,000**	**$50,000**	**$50,000**
33	c) Misc. Other -						
34	TravInfo®	$1,007,749	$706,378	$744,682	$744,682	$666,213	$992,809
35	Concept of Operations	$500,000	$0	$0	$0	$0	$0
36	**Total Misc Other**	**$1,507,749**	**$706,378**	**$744,682**	**$744,682**	**$666,213**	**$992,809**
37	**Total Contributions to Other Projects (TravInfo, FSP, etc.)**	**$3,576,797**	**$6,762,381**	**$3,300,385**	**$6,289,679**	**$7,383,860**	**$7,247,994**
38	**Total Project Expenditures**	**$7,377,481**	**$10,718,086**	**$6,752,865**	**$13,578,634**	**$10,637,395**	**$10,566,486**
39	**End of Year Cash Available (Excluding Reserves)**	**$10,896,793**	**$7,234,575**	**$8,550,507**	**$6,230,059**	**$4,550,465**	**$2,503,952**
40	**Total Call Box Program and FSP Reserves**	**$11,464,493**	**$11,098,834**	**$10,513,548**	**$6,879,823**	**$5,556,262**	**$4,741,907**